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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,709	05/11/2001	Noel Heiks	A1148.0000/P010	5181

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EXAMINER

STAHL, MICHAEL J

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 10/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/852,709

Applicant(s)

HEIKS ET AL.

Examiner

Mike Stahl

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-18 is/are allowed.
- 6) ☒ Claim(s) 1,2,19 and 25 is/are rejected.
- 7) ☒ Claim(s) 3,4,20-24 and 26-28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: .

Art Unit: 2874

Information Disclosure Statement

The references submitted May 11 and August 14, 2001 have been considered. Initialed copies of form PTO-1449 are attached.

Claim Objections

Claim 26 is objected to because of the following informality: Claim 26 refers to "said rails" but no rails were previously mentioned in this claim or its parent claims. It appears that "said rails" should be changed to "said pair of fibers". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 19, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Witte (US 4325604).

Witte discloses an optical switch comprising a fixed array 20, a movable array 10, first fibers 2 and 3 mounted on the fixed array 20 and second fibers 1 and 4 mounted on the movable array 10, and a mounting apparatus 51, wherein the fixed array is immobile and the movable array is movable relative to the mounting apparatus as required by claim 1. As to claim 2, the mounting apparatus further comprises mounting structures 52 and 53. The method of making the

Art Unit: 2874

Witte switch would involve the steps of claim 19. As to claim 25, the fibers are positioned within grooves 101, 102, 201, and 202 (which may be considered "cut-in portions") and are affixed to the support structures 10 and 20.

Allowable Subject Matter

Claims 5-18 are allowed. Claims 3-4, 20-24, and 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and if claim 26 is suitably amended to overcome the above objection.

As to claims 3 and 26, none of the cited references which respectively satisfy claims 1 and 2 or 19 and 25 additionally meet the requirement that the optical arrays formed by upper and lower chips, where the chips further have cut-in portions which define a notch when the chips are mated. Claim 4 depends from claim 3. As to claim 20, none of the references of record which satisfy claim 19 also satisfy the requirement that the support structures have grooves which are positioned on mounting structures. The support structures in the references typically reside directly on flat substrates without any intervening grooves. Claims 21-24 depend from claim 20. As to claim 27, none of the cited references shows or suggests providing a base structure having one set of grooves perpendicular to another set of grooves, and additionally positioning mounting structures within those grooves. Claim 28 depends from claim 27.

Regarding claim 5, the closest pertinent references are Tabuchi (US 5909524, cited by applicant) and Shigematsu et al. (US 5185825). Tabuchi discloses various embodiments wherein a single element has both grooves for fibers and grooves for mounting structures such as rails,

but does not teach or suggest any switching function or a fixed (immobile) fiber array in cooperation with a movable fiber array. Shigematsu discloses switching devices which satisfy every aspect of claim 5 except for the requirement that one of the fiber arrays is fixed.


Shigematsu specifically provides for the motion of both fiber arrays as an improvement to a prior art device in which one of the arrays was fixed (figs. 24(a) and (b)). The reference disclosing that type of prior art device, JP 63-85522, does not appear to be specific enough to satisfy every detail of claim 5. In summary, the references of record fail to teach or suggest all the limitations of claims 5-18.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5920665, US 5461683, and US 4859022 all describe optical fiber switches having fixed and movable fiber arrays.

Any inquiry concerning this communication should be directed to Mike Stahl at (703) 305-1520. Inquiries of a general or clerical nature (e.g., a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at (703) 308-0956 or to the technical support staff supervisor at (703) 308-3072.

MJS
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Patent Examiner
Art Unit 2874


Rodney Bovernick
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September 27, 2002